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**GROUND WATER QUALITY BUREAU (GWQB)
DISCHARGE PERMIT RENEWAL and MODIFICATION
EXISTING COPPER MINE FACILITY
Issued under 20.6.2 and 20.6.7 NMAC**

Return Receipt Requested

Mine Facility Name: Tailing Pond 7 and Axiflo Lake; Pipeline Corridor Area; and the Filter Plant

GWQB Discharge Permit No.: DP-484
GWQB TEMPO AI No.: 526

Permittee Name/Responsible Party: Freeport-McMoRan Chino Mines Company
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Bayard, NM 88023

Mine Facility Contact: Kariann Sokulsky; (575) 912-5386
Mine Facility Location: 99 Santa Rita Mine Road
Vanadium, NM 88023

County: Grant County

Permitting Action: Renewal and Modification
Renewal Effective Date: DATE
Renewal Expiration Date: DATE

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John Rhoderick, Acting Director
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Date

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

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Part A GENERAL INFORMATION

A100 Introduction

- A. The New Mexico Environment Department (NMED) issues this Ground Water Discharge Permit Renewal and Modification, DP-484 (Discharge Permit) to Freeport-McMoRan Chino Mines Company (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978, §§ 74-6-1 to 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC (Ground and Surface Water Protection) and 20.6.7 NMAC (Ground Water Protection – Supplemental Permitting Requirements for Copper Mine Facilities; aka the Copper Mine Rule). NMED is issuing this Discharge Permit to control the discharge of water contaminants from Tailing Pond 7 and Axiflo Lake; Pipeline Corridor Area; and the Filter Plant and associated mine units for the protection of groundwater and those segments of surface water gaining from groundwater inflow, for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health. Mine units previously regulated under DP-213 and DP-214 are incorporated into this DP-484 renewal and modification.
- B. Pursuant to this Discharge Permit, the permittee is authorized to discharge of up to 28,160,000 gallons per day (gpd) of tailing slurry, process water, and domestic wastewater to a mine tailing impoundment and up to 600,000 gpd of copper concentrate slurry to the Filter Plant. In addition, impacted stormwater, process water and seepage within the DP-484 permit area are regulated pursuant to this Discharge Permit. These discharges may move directly or indirectly into groundwater of the State of New Mexico that has an existing concentration of 10,000 milligrams per liter (mg/L) or less of total dissolved solids (TDS) within the meaning of Section 20.6.2.3104 and Subsection A of 20.6.2.3101 NMAC. The discharge may contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC in compliance with the terms and conditions of this Discharge Permit.
- C. The permittee is authorized to discharge water contaminants pursuant to this Discharge Permit, which requires compliance with 20.6.2 NMAC and 20.6.7 NMAC and is enforceable by NMED.

A101 Applicable Regulations

- A. The permittee is discharging from a facility that meets the definition of “existing copper mine facility.” Sections 20.6.2.3000 through 20.6.2.3114 NMAC and 20.6.7 NMAC apply to discharges specific to copper mine facilities and their operations.

- B. The discharge from the facilities regulated pursuant to this Discharge Permit are not subject to any of the exemptions of Section 20.6.2.3105 NMAC.
- C. Groundwater quality as observed in monitoring wells required by C106 of this Discharge Permit (Figure 1) is subject to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC except those excluded pursuant to Subsection D of 20.6.7.24 NMAC.

A102 Permit Duration

- A. Pursuant NMSA 1978 § 74-6-5(I) and Subsection H of 20.6.2.3109 NMAC, the term of this Discharge Permit Renewal is **five (5) years** from the effective date.
- B. If the permittee submits an application for renewal in accordance with Subsection F of 20.6.2.3106 NMAC, then the existing discharge permit shall not expire until NMED approves or disapproves the application for renewal.

A103 Terms of Permit Issuance

- A. **Permit Fees** - As a discharge permit associated with Freeport-McMoRan Chino Mines Company, the permittee shall remit an annual permit fee payment equal to the applicable permit fee based on mine size listed in Subsection A of 20.6.7.9 NMAC on August 1 of each year until termination of all discharge permits for the Chino Mines Company. [20.6.7.9.A NMAC]
- B. **Transfer of Discharge Permit** - Prior to the transfer of any ownership, control, or possession of this permitted facility or any portion thereof, the permittee shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Discharge Permit with the notice. The permittee shall deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.7.38 NMAC and 20.6.2.3111 NMAC]
- C. **Permit Renewal** - To renew this Discharge Permit, the permittee shall submit an application and associated fees for renewal at least 270 days prior to the expiration date of this Discharge Permit (by DATE) in accordance with Sections 20.6.7.9, 20.6.7.10, and 20.6.7.11 NMAC.
- D. **Additional Conditions** - In addition to the requirements of 20.6.7 NMAC, the permittee shall comply with the following additional conditions as authorized by Subsection I of 20.6.7.10 NMAC pursuant to WQA 74-6-5: Condition C100.D, Condition C101.C, Condition C107.H, and Condition C108.D.1.

Part B FACILITY SPECIFIC INFORMATION

B100 History and Facility Description

- A. The Chino Mine is an open pit copper mine facility owned by Freeport-McMoRan Chino Mines Company which covers an area of approximately 35,000 acres. The Chino Mine consists of the Santa Rita Open Pit, associated waste rock and leach stockpiles, collection systems, a SX/EW plant, a concentrator and associated mineral processing units, an active tailing impoundment, and reclaimed mine units. The Chino Mine is regulated by NMED pursuant to multiple operational Ground Water Discharge Permits, a supplemental discharge permit for closure, and an abatement plan.
- B. The Chino South Mine Area (SMA) is shown in Figures 2 and 3 and includes reclaimed Lake One; reclaimed Older Tailing Ponds 1, 2, 4 East, 4 West, B, and C; partially reclaimed Older Tailing Ponds 6 East and 6 West; operational Tailing Pond 7, operational portions of Tailing Ponds 6E and 6W, and Axiflo Lake; and the Hurley Operational Area. The tailing impoundments in total contain approximately 690 million tons of tailing and cover approximately 3,500 acres. The SMA encompasses the area from the north end of Lake One to the confluence of Whitewater Creek with San Vicente Arroyo, approximately 12 miles to the south, which is the approximate extent of groundwater impacts being addressed by Sitewide Abatement under DP-1340.
- C. The SMA Hurley Operational Area includes the Filter Plant, Hurley Power Plant, Maintenance Shop, reclaimed Hurley Smelter area, the Acid Loading and Unloading Area, impoundments, tanks, and associated infrastructure. Construction of the Hurley Smelter was completed in 1939. The Hurley Smelter ceased operations in 2001, was demolished in 2007 and the 25-acre site was reclaimed in 2008.
- D. Most of the older Tailing Ponds in the SMA, previously regulated under DP-214, were reclaimed between 2012-2014 in accordance with the Copper Mine Rule. These reclaimed mine units comprise approximately 2016 acres and include Lake One, the majority of the Slag Pile, and Older Tailing Ponds 1, 2, 4, B, C, 69% of 6E, and 71% of 6W. Maintenance and monitoring of the reclaimed Tailing Ponds and other reclaimed units in the SMA is regulated under DP-1340.
- E. The Pipeline Corridor Area (PCA) extends south from the Ivanhoe Concentrator to Tailing Pond 7. The PCA includes three tailings pipelines, one process water pipeline, one copper concentrate pipeline and associated infrastructure including secondary containment structures.

- F. From the Ivanhoe Concentrator, tailing flows via gravity in either the West Tailing Pipeline, the East Tailing Pipeline, or the Middle Tailing Pipeline (also called Spare Tailing Pipeline) for approximately seven miles through Bayard Canyon on the Lake One Haul Road and partly along Whitewater Creek to the Chino Tailing Pump Station (CTPS) or the Termination Tank located northwest of Axiflo Lake. The three tailing pipelines continue south for another two and half miles for discharge at Tailing Pond 7. The Copper Concentrate Pipeline follows the same pipeline corridor until branching off to the southwest just north of the reclaimed Slag Pile and terminates at the Filter Plant. The Process Water Pipeline routes through 750 Tank, the Termination Tank and then to Tailing Pond 7. The PCA and associated pipelines are shown on Figure 2.
- G. Axiflo Lake is an unlined process water reservoir located south of the town of Hurley between Reclaimed Tailing Ponds 2 and 4. Upgrades to the dam were completed between 2018-2019 in accordance with Office of the State Engineer Dam Safety Bureau regulations. Upgrades to the tailing slurry distribution system were also completed in 2018-2019.
- H. The James Canyon Reservoir is a part of the Whitewater Creek Diversion. It was improved in 2003 and is used for stormwater and sediment retention before decanting through a man-made diversion into Bolton Draw. The Upper Whitewater Creek Diversion is designed to prevent stormwater in Whitewater Creek from entering the Lake One and tailing impoundment area.
- I. The Tailing Pond 7 Groundwater Interceptor Well System is located immediately south of Tailing Pond 7 and consists of eighteen interceptor wells that pump groundwater and comingled tailing pond seepage back to the Tailing Pond 7 decant pond.
- J. Fresh water is pumped from various well fields including the Apache Tejo, McCauley, Whitewater, Warm Springs, Moody, Stark, 2C, Yates and Baker wellfields, and used at the North Mine Area (NMA) and SMA as necessary. The Hurley Power Plant may provide a portion of the electrical power for the Chino Mine.

B101 Permit Modification

- A. The modification of DP-484 includes incorporation of operational mine units from DP-214 (Axiflo Lake, Filter Plant) and DP-213 (Pipeline Corridor Area consisting of one process water, one copper concentrate, and three tailing pipelines) and associated infrastructure.

B102 Permitting History

- B. The Discharge Plan for DP-484 includes renewal application materials submitted by the permittee to NMED dated February 16, 2010 for the renewal of Discharge Permit 213 (DP-

213), on September 17, 2009 for renewal of Discharge Permit 484 (DP-484), and on September 9, 2020 for the renewal of Discharge Permit 214 (DP-214). May 4, 2011, an addendum to the application dated August 28, 2019, and materials contained in the administrative record prior to issuance of this Discharge Permit. As part of the application process, the permittee also provided a document dated August 7, 2020 titled, "Chino Ivanhoe Concentrator Application Requirements for Discharge Permits at a Copper Mine Facility," referred to herein as the Chino South Mine Area (SMA) Master Document. The SMA Master Document addresses general Copper Mine Rule application requirements applicable to DP-484. The Discharge Plan for DP-484 also includes the Chino SMA Water Management Plan, required to be submitted annually by this Discharge Permit. In addition, the Discharge Plan includes information and materials submitted as part of the original plan approved for DP-484 on October 31, 1988, modified on January 22, 1993, renewed on June 30, 1993; and amended on April 17, 1997, March 25, 1998, June 18, 1998, October 1, 2008, and September 1, 2010.

B103 Facility Location, Groundwater and Process Water Characteristics

- A. The mine units regulated pursuant to DP-484 are located in Sections 5, 6, 7, 8, 9, 16, 17, 19, 20, 21, 28, 29, 30, 32, and 33, T19S, R12W, Sections 5, 6, 7, 18, 19, 30, 31 and 32, T18S, R12W, Sections 32, T17S, R12W, Grant County
- B. Groundwater beneath the mine units regulated pursuant to DP-484 is at a depth of approximately 1 to 200 feet and had a pre-discharge TDS concentration of approximately 200 - 400 milligrams per liter.
- C. DP-484 mine units including Tailing Pond 7 and Axiflo Lake; the Pipeline Corridor Area; and the Filter Plant area and associated facilities process, transport, and store tailing slurry, process water, seepage, and impacted stormwater. These solutions typically exceed the water quality standards of Section 20.6.2.3103 NMAC for aluminum, arsenic, beryllium, cadmium, chromium, cobalt, copper, fluoride, iron, manganese, nickel, molybdenum, selenium, sulfate, and TDS, and can be outside the acceptable range for pH.
- D. Water quality of sources used for dust suppression in the Hurley Operational Area meet water quality standards of Section 20.6.2.3103 NMAC.

B104 Authorized Mine Units

This Discharge Permit contains requirements associated with the following mine units as identified in the Discharge Plan. All mine units listed below meet the definition of "existing" mine units pursuant to the Copper Mine Rule and are located outside the Open Pit Surface Drainage Area (OPSDA) as defined by Section 20.6.7.7 NMAC. Figures 2 and 3 of this Discharge Permit display locations of mine units; a process water flow diagram is provided as Figure 4.

A. Mineral Processing and Tailing Impoundment Units

1. Hurley Operational Area - The Hurley Operational Area includes the Filter Plant and Blending Plant; Hurley Power Plant; Maintenance Shop; Acid Loading and Unloading Area; reclaimed Hurley Smelter area; and associated infrastructure. Process water and impacted stormwater collected in the Hurley Operational Area is discharged to the Upper Lined/Lower Lined Pond System.

- a. Filter Plant - The Filter Plant includes the Hurley Industrial Area receives up to 600,000 gpd (~1,000 tons) of copper concentrate slurry at approximately 50% solids. The concentrate slurry is filtered and dried to approximately 10% moisture content resulting in a dry concentrate and process water. The process water is conveyed to the Metal Recovery Unit No. 2 Thickener (MRU 2 Thickener) for additional processing and then discharged to the Upper Lined/Lower Lined Pond System. Dry concentrate is transferred by hooded conveyor belts to the Blending Plant where it is mixed for consistency. Dry concentrate is loaded in rail cars and shipped offsite. Two Diversion Tanks and a concrete launder containment system are used to backwash pipelines conveying copper concentrate at the Filter Plant area.
- c. Acid Loading and Unloading Area - The Acid Loading and Unloading Area serves as a receiving, storage, and distribution center for sulfuric acid used in the copper leaching process as described in DP-591. Sulfuric acid is received by rail and truck, stored in the two Sulfuric Acid Storage Tanks, and transported by truck to the NMA and other Freeport-McMoRan operations in New Mexico and Arizona. Two concrete containment areas equipped with drains and sumps collect acid-washdown process water from loading and unloading areas and discharge to the Lower Lined Pond.
- d. Slag Pile - The majority of the Slag Pile was reclaimed between 2012-2014 in accordance with the Copper Mine Rule. A portion, approximately 6.5 acres, located near the Filter Plant remains unreclaimed.

2. Tailing Impoundment (Tailing Pond 7) - Tailing Pond 7 is a conventional upstream-dam constructed unlined tailing impoundment with a footprint of approximately 1600 acres. It receives discharges of tailing slurry, process water and seepage, impacted stormwater, treated domestic wastewater, and septage. Initiation of construction of Tailing Pond 7 commenced in 1990 and it is currently the only active tailing impoundment at Chino Mine. Tailing slurry, conveyed from the Ivanhoe Concentrator, is processed at Tailing Pond 7 using slurry cranes. Slurry cranes separate the tailing slurry into a coarse (sands) and fine fraction (slimes); the coarse fraction is used to construct the tailing dam and the fine fraction is discharged to the Tailing Pond 7 pool. The tailing slurry conveyed down the tailing pipelines ranges from 45% to 55% solids by weight. Decant water from the Tailing Pond 7 supernatant pool is used for dust suppression within the Tailing Pond 7 operational area or pumped to process water tanks at

the Ivanhoe Concentrator via the 750K Tank for process water reuse. Magnesium chloride is also used within the Tailing Pond 7 operational area as a dust suppression agent.

- a. Tailing Pond 6E and 6W - As displayed on Figure 3 of this Discharge Permit, portions of Tailing Pond 6E and Tailing Pond 6W remain unreclaimed and receive discharges associated with occasional pipeline/valve maintenance. Impacted stormwater generated from the unreclaimed portions discharge to Tailing Pond 7.

B. Impoundments

1. Upper Lined/Lower Lined Pond System - The Upper and Lower Lined Pond System is located at the Hurley Operational Area east of the Filter Plant and receives impacted stormwater via conveyance channels and sumps from the Filter Plant area and process water from the MRU 2 Thickener. It consists of two process water/impacted stormwater high-density polyethylene (HPDE) lined impoundments. The Upper Lined Pond is equipped with under-liner pumps, has a capacity of approximately 2,059,378 gallons (6.32 acre-feet), and gravity discharges to the Lower Lined Pond. The capacity of the Lower Lined Pond is approximately 14,428,680 gallons (44.28 acre-feet) and solutions from it are pumped using barge pumps to the ELMS Tank.
2. Elmo's Pond - Elmo's Pond is an impacted stormwater HPDE lined impoundment located at the southwest end of the Hurley operational area. The capacity of Elmo's Pond is approximately 3,714,701 gallons (11.4 acre-feet) and it discharges to the ELMS Tank.
3. Axiflo Lake - Axiflo Lake is an unlined process water reservoir located between Reclaimed Tailing Ponds 2 and 4. Axiflo Lake covers approximately 50 acres and has a storage capacity of approximately 18,000,000 gallons (55.24 acre-feet). Axiflo Lake receives impacted stormwater and process water from the Hurley Operational Area via the ELMS tank, and tailing slurry from the CTPS during upset conditions (i.e., during a power or pipeline shutdown event), storm events or maintenance and repair activities.
4. James Canyon Reservoir - The James Canyon Reservoir covers an area of approximately 45 acres. The Upper Whitewater Creek Diversion transfers surface water in Whitewater Creek to the east, through James Canyon and away from the reclaimed Tailing Ponds. A spillway diverts water to Bolton Draw. A series of filter dikes located at the upstream end of the reservoir is utilized to minimize the influx of sediment to the reservoir.

C. Pipelines, Tanks, Sumps, and Other Containment Systems

1. Tanks - There are numerous existing above-ground tanks associated with DP-484 that meet the criteria of Paragraph (2) of 20.6.7.23.B NMAC. The tanks listed below are identified in the Discharge Plan, and Table 9 of the SMA Master Document.
 - a. 750,000 Gallon Tank (750K Tank) - The steel 750K Tank is located south of the Filter Plant, has a capacity of 750,000 gallons, and is used to store and transfer process water to the NMA using four pumps.
 - b. Metal Recovery Unit No. 2 Thickener (MRU 2 Thickener) - The steel MRU 2 Thickener is used to treat process water generated at the Filter Plant and has a capacity of 373,261 gallons. The MRU 2 Thickener discharges to the Upper Lined/Lower Lined Pond System.
 - c. No. 1, No. 2, and No. 3 Copper Concentrate Tanks - Three copper concentrate slurry storage tanks are located east of the Filter Plant; each above-ground steel tank has a capacity of 150,000 gallons.
 - d. Diversion Tanks - Two 5,000-gallon capacity poly tanks located proximal to the Filter Plant are used to store wash water and impacted stormwater generated at the Filter Plant area.
 - e. Sulfuric Acid Storage Tanks - Two 10,000-ton steel tanks located at the Acid Loading and Unloading Area are used to store sulfuric acid. The tanks are situated within a concrete secondary containment structure equipped with an overflow pipe that discharges into a tertiary concrete containment structure.
 - f. Hurley Septic Tank - The 210,000-gallon capacity concrete Hurley Septic Tank is located west of the Hurley Lift Station and south of the Power Plant. It receives domestic wastewater from Power Plant area and Reclamation Trailers. Process water from Ash Tunnel Power Plant drain and Power Plant area also discharges to the Hurley Septic Tank. Fluids from the septic tank are conveyed to the Hurley Lift Station and then pumped to the ELMS Tank.
 - g. Hurley Lift Station - The Hurley Lift Station is located west of Elmo's Pond. The Hurley Lift Station is used to pump domestic wastewater and process water from the Hurley Septic Tank to the ELMS Tank which discharges to Tailing Pond 7.
 - h. ELMS Tank - The ELMS Tank is an above-ground steel tank located at the northwest corner of Axiflo Lake and proximal to the Termination Tank. It has a capacity of 7,050 gallons and is used to transfer process water from the Upper Lined/Lower Lined Pond System, treated effluent from the Bayard Wastewater Treatment Facility (WWTF) (also known as Tri-City WWTF), and domestic wastewater from the Chino Lift Station to Axiflo Lake or Tailing Pond 7.
 - i. Termination Tank - The Termination Tank is an above-ground steel tank located proximal to the ELMS Tank with a capacity of 23,000 gallons and is used to gravity convey tailing slurry and process water to Tailing Pond 7.
 - j. Chino Tailing Pump Station (CTPS) - The CTPS is an above ground steel pump station with a capacity of 100,000 gallons. It is located approximately 750 feet northwest of

the ELMS and Termination Tank. It pumps tailing slurry to Tailing Pond 7 or Axiflo Lake (during upset conditions). The CTPS is located on top of a reinforced concrete pad and sump secondary containment system referred to as the Chino Tailing Pump Station Containment System that is used to contain tailing material and process water.

2. Axiflo Sump - A small, approximately 4,114-gallon concrete sump located at the eastern toe of the Axiflo dam collects impacted stormwater and seepage from the dam face. Dam seepage is conveyed to the sump via a French drain system located along the toe of the dam. Collected solutions in the sump are pumped back into Axiflo Lake.
3. Groundhog Containment - The Groundhog Containment (also known as the Groundhog Pond) is an unlined containment constructed with a cement headwall keyed into bedrock. It is located on the Lake One Haul Road at Mile Marker 0.5 and has a storage capacity of 30,000 gallons. It collects stormwater and spills from the PCA. Solutions collected in it are stored short-term before being pumped into Reservoir 17 (DP-526) using automatic pumps at set water levels.
4. Southeast Corner Containment System - The Southeast Corner Containment System (also known as the Old Whitewater Creek Containment) is located proximal to and on the southeast toe of Tailing Pond 7 in front of the Tailing Pond 7 Groundwater Interceptor Well System. The containment system collects impacted stormwater and seepage generated from the east outslope of Tailing Pond 7. It includes the Southeast Primary Containment (22.9 acre-feet or 7,461,987 gallon storage capacity) and the downstream Secondary Containment (3.74 acre-feet or 1,218,683 gallon storage capacity) and Tertiary Containment (16.1 acre-feet or 5,246,200 gallon storage capacity), which are only used for upset conditions to store additional flows from the Southeast Primary Containment. During upset conditions, portable diesel pumps are used to transfer the water back to the top of Tailings Pond 7 or back into the Southeast Primary Containment. The system was upgraded in 2010 to expand capacity of the Southeast Corner Containment. Solutions in the Southeast Corner Containment System are stored for short-term and water levels are kept as low as practicable.
 - a. Tailing Pond 7 French Drain System - The Tailing Pond 7 French Drain System is a seepage collection and interceptor system located along the southeast toe of Tailing Pond 7 that is approximately 80 feet long, 6-8 feet deep and filled with 6-inch bedding stone. Tailing Pond 7 seepage captured by this system report to an earthen sump equipped with a pump that discharges to the Southeast Corner Containment System.
5. Tailing Pond 7 Groundwater Interceptor Well System - Eighteen interceptor wells equipped with submersible pumps and located south of Tailing Pond 7 are utilized to pump up to 2200 gallons per minute (gpm) or approximately 3,160,000 gpd of impacted groundwater and comingled tailing pond seepage for process water reuse. Pumped fluids are conveyed via above-ground piping back to the Tailing Pond 7 decant pond where it

may be pumped to the 750K Tank. The interceptor wells are displayed on Figure 3 of this Discharge Permit and include PW-1, PW-2R, PW-3, PW-4, PW-5, PW-6, PW-7R, PW-8, PW-9, PW-10, PW-11, PW-12, PW-15, PW-16, PW-17, PW-18, PW-19, and PW-20. The interceptor wells are geographically distributed into Zones 1 – 4 (east to west) as follows:

- a. Zone 1: PW-1, PW-4, PW-5, PW-8 and PW-20
 - b. Zone 2: PW-3, PW-6, PW-9, PW-10, and PW-19
 - c. Zone 3: PW-2R, PW-7R, PW-11, and PW-12
 - d. Zone 4: PW-15, PW-16, PW-17, and PW-18
6. Pipelines - Pipelines serving the DP-484 mine units, including the three Tailing, one Copper Concentrate, and one Process Water Pipeline consist of HDPE, urethane, or stainless-steel material and range in size from 6 inches or less in diameter to greater than 30 inches in diameter, and are described in Table 8 of the SMA Master Document. The Middle (Spare) Tailing Pipeline and West Tailing Pipeline are high-density polyethylene (HDPE)-lined steel pipelines constructed in 2005 to replace older pipelines. The East Tailing Pipeline is a urethane-lined steel pipeline that is mostly buried and was installed in approximately 1983. The Process Water Pipeline, constructed as a replacement pipeline in 2012, is a 30-inch diameter HDPE-lined steel pipeline capable of conveying up to 23,000,000 gpd of process water. The Copper Concentrate Pipeline is a five-inch diameter pipeline. The Tailing and Process Water Pipelines in the PCA are equipped with an engineered leak-detection system monitored at Chino Tailings Office.
- a. PCA Secondary Containment Structures - Approximately twenty-five secondary containment structures, including the Groundhog Containment, are located along the PCA proximal to the pipelines and are used to contain solutions released from pipeline spills. The containments are displayed in Figures 3A-3F of the SMA Master Document.

D. Flow Measurement

1. The permittee utilizes flow meters to measure regulated discharge volumes pursuant to this Discharge Permit and as required by the Copper Mine Rule. Flow meters utilized by DP-484 are described in Table 10 of the SMA Master Document and listed in Table 1 of this Discharge Permit.

E. Truck and Equipment Washing Unit

1. Small Truck Wash Rack - The Small Truck Wash Rack is a concrete truck wash located east of the Filter Plant.

B105 Authorized Discharges

The permittee is authorized to discharge water contaminants from the following mine units in accordance with all applicable system design and operational constraints as described in this Discharge Permit and the Discharge Plan.

- A. The permittee is authorized to discharge up to 24,500,000 gpd of tailing slurry, process water and impacted stormwater from the Ivanhoe Concentrator to the East, West or Middle Tailing Pipeline and then to Tailing Pond 7 via gravity flow from the Termination Tank or pumped from the Chino Tailing Pump Station (CTPS).
- B. The permittee is authorized to discharge up to 12,200,000 gpd of process water from the Tailing Pond 7 decant pond to NMA via the 750K Tank for process water reuse.
- C. The permittee is authorized to manage and process solutions at the Hurley Operational Area - including processing of copper concentrate using the Filter Plant, No. 1, 2, and 3 Concentrate Tanks, MRU 2 Thickener, and Blending Plant - at a rate of up to 2,600,000 gpd, and then discharge process water to the Upper Lined/Lower Lined Pond System and then ELMS Tank.
- D. The permittee is authorized to discharge process water and impacted stormwater from the Upper Lined/Lower Lined Pond System and Elmo's Pond to Tailing Pond 7 or Axiflo Lake via the ELMS Tank at a rate of up to 9000 gallons per minute.
- E. The permittee is authorized to discharge up to 1,000,000 gpd of treated effluent from the Bayard WWTF to Tailing Pond 7.
- F. The permittee is authorized to discharge up to 600,000 gpd of copper concentrate slurry from the Ivanhoe Concentrator to the Copper Concentrate Pipeline and then to the Filter Plant for additional processing.
- G. The permittee is authorized to discharge up to 60,000 gpd of domestic wastewater pumped from the Hurley Septic Tank to the Hurley Pump Station and then to Tailing Pond 7 via the ELMS Tank.
- H. The permittee is required to operate the Tailing Pond 7 Groundwater Interceptor Well System to pump impacted groundwater and comingled tailing pond seepage and is authorized to discharge up to 2200 gpm to Tailing Pond 7 and the process water reuse system.
- I. The permittee is authorized to discharge up to 864,000 gpd pumped from the Bolton Well Fields to Tailing Pond 7.

- J. The permittee is authorized to discharge tailing slurry to Axiflo Lake from the CTPS or Termination Tank during upset conditions (i.e., during a power or pipeline shutdown event), or maintenance and repair activities.
- K. The permittee is authorized to operate Tailing Pond 7, Axiflo Lake, the Upper Lined/Lower Lined Pond System, Elmo's Pond, and the Southeast Corner Containment System as described in the most recent version of the Chino SMA Water Management Plan required by this Discharge Permit to collect, store, and transfer discharges of process water and impacted stormwater from SMA locations, including the Hurley Operational Area.
- L. The permittee is authorized to use Tailing Pond 7 decant water and magnesium chloride for dust suppression within the Tailing Pond 7 footprint.
- M. This Discharge Permit authorizes only those discharges specified herein. Any unauthorized discharges such as spills or leaks must be reported to NMED and remediated as required by Section 20.6.2.1203 NMAC, and any additional requirements listed in this Discharge Permit.

Part C FACILITY SPECIFIC REQUIREMENTS

The permittee shall conduct operations in accordance with the requirements set forth below to ensure compliance with 20.6.2 NMAC, and in accordance with the applicable requirements of 20.6.7 NMAC.

C100 Mineral Processing and Tailing Impoundment Units

- A. Design, construction, and location of all mineral processing and tailing impoundment units shall be in accordance with the Discharge Plan, and applicable requirements of Subsections A and B of 20.6.7.22 NMAC.
- B. Operation of all mineral processing and tailing impoundment units shall be in accordance with the Discharge Plan and applicable requirements of Subsection C of 20.6.7.22 NMAC.
- C. Tailing Pond 7
 - 1. Pursuant to Subparagraph (a) of 20.6.7.22.C(1) NMAC, Tailing Pond 7 shall not exceed the existing footprint which is approximately 1600 acres. The permittee may only expand the permitted footprint for the purpose of facility closure, or through an NMED-approved permit amendment or modification to DP-484.
 - 2. Deposition of tailings shall be in accordance with the operating plan required by C106.F.
 - 3. Surface water quality of Tailing Pond 7 shall not have pH values below 6.0, or greater than

pH 9.0. If the pH value in the Tailing Pond 7 decant pool is lower than 6 or greater than 9, the permittee shall treat the water to maintain a pH value between 6 and 9.

D. Hurley Operational Area Upgrades/Corrective Action Plan

1. Pursuant to applicable requirements of 20.6.7.23 NMAC, 20.6.7.30 NMAC and this Discharge Permit, within 90 days of the effective date of this Discharge Permit (by DATE), the permittee shall submit to NMED for approval, a corrective action plan and implementation schedule that addresses aging mine units and compromised infrastructure at the Hurley Operational Area that, should failures to these mine units occur, may result in direct or indirect impacts to groundwater quality. Areas requiring assessment for upgrades including repair, replacement or additional containment include, but are not limited to, the three Copper Concentrate Storage Tanks, the copper concentrate backwash concrete launder containment system, MRU 2 Thickener, and the Acid Loading and Unloading Area. The corrective action plan shall be submitted in electronic and hard copy format.

C101 Impoundments

- A. Operation of all impoundments shall be in accordance with the applicable requirements of Subsection F of 20.6.7.18 NMAC.
 1. In accordance with Paragraph (4) of 20.6.7.18.F NMAC, all impoundments shall be maintained to achieve a minimum of 2 feet of freeboard.
- B. Axiflo Lake - Surface water quality of Axiflo Lake shall not have pH values below 6.0, or greater than pH 9.0. If the pH value in Axiflo Lake is lower than 6 or above 9, the permittee shall treat the water to maintain a pH value between 6 and 9.
 1. Axiflo Lake Dam Documentation - Pursuant to Subsection C of 20.6.7.17 NMAC, the permittee shall, within 90 days of the effective date of this Discharge Permit (by DATE), submit to NMED documentation of compliance with the Dam Safety Bureau of the Office of the State Engineer permitting requirements for the Axiflo dam upgrades pursuant to Section 72-5-32 NMSA 1978, and rules promulgated under that authority, unless exempt by law from such requirements.
- C. James Canyon Reservoir - The permittee shall maintain a series of filter dikes to minimize the influx of sediment to James Canyon Reservoir. The permittee shall remove sediment accumulations as necessary to maintain the efficiency of this dike system. To maintain the stilling capacity of James Canyon Reservoir and to minimize the flux of sediment to Bolton Draw, the permittee shall dredge the reservoir if sediment samples indicate a potential to affect groundwater or surface water quality, or when the sediment accumulation reaches 20% of reservoir storage capacity, whichever comes first.
 1. Any material or sludge dredged from the James Canyon Reservoir shall be placed in a location specifically authorized in the discharge permit, an alternate location subject to NMED approval, or otherwise properly contained, transferred, or disposed of in a manner

that does not result in discharge to non-authorized areas.

C102 Pipelines, Tanks, Sumps and Other Containment Systems

- A. Design, construction and location of all pipelines, tanks and sumps shall be in accordance with the Discharge Plan, and applicable requirements of Subsections A and B of 20.6.7.23 NMAC.
- B. The permittee shall operate all pipelines, tanks and sumps in existence on the effective date of the Copper Mine Rule in accordance with the applicable requirements of Subsection C of 20.6.7.23 NMAC and Paragraph (2) of 20.6.7.23.B NMAC.
- C. Detailed and complete construction plans and specifications and supporting design calculations for any proposed pipelines, tanks, sumps, or other containment systems, including any replacements thereof, shall be submitted to NMED pursuant to Paragraph (2) of 20.6.7.17.C NMAC, Section 20.6.7.23 NMAC, and D107 of this Discharge Permit. This requirement does not apply to portable or temporary pipelines, tanks, sumps, or other containment systems that are subject to periodic relocation during mining operations.
- D. Pursuant to Subsection J of 20.6.7.33 NMAC, upon discontinuing the operation of, or before moving pipelines, tanks, sumps, or other containment systems, all liquids shall be released to a location specifically authorized in the discharge permit, an alternate location subject to NMED approval, or otherwise properly contained, transferred, or disposed of in a manner that does not result in discharge to unauthorized areas.
- E. Pipeline Corridor Area Leak Detection System:
 - 1. The permittee shall set the leak detection system at the following levels at all times that the pipelines in the PCA are in operation:
 - a. For the West Tailing Pipeline, East Tailing Pipeline and the Middle (Spare) Tailing Pipeline, the leak detection system shall be set at a maximum of 160 gpm (meaning the difference between the input discharge volume and output discharge volume shall be no more than 160 gpm);
 - b. For the Process Water Pipeline, the leak detection system shall be set at a maximum of 100 gpm; and
 - c. The authorized levels for the leak detection system may only be adjusted with NMED approval.
 - 2. The permittee shall respond to all alarms from the leak detection system by immediately dispatching an appropriate number of inspectors to visually inspect the pipeline and associated structures, including containment structures, for leaks. Such inspections shall be conducted within two hours of the alarm.
 - 3. The permittee shall report the date, time, duration, and location of all alarms from the leak detection system, and the results of the visual inspections in the semi-annual

monitoring reports pursuant to C106. Repeated false alarms may require additional corrective actions.

F. Pipeline Corridor Area Inspections and Maintenance

1. Upon startup of any of the concentrate, tailing or process water pipelines, the permittee shall visually inspect that pipeline and all associated structures. The permittee shall also perform pressure tests on each pipeline prior to being put back into service to ensure that the line has maintained its integrity during the shutdown period.
2. Prior to the operation of any of the pipelines, the permittee shall conduct a visual inspection of the pipeline spill containment structures to ensure they have maintained their integrity during the shutdown period. Any containment structure that has been damaged shall be repaired prior to the operation of the pipelines. Each containment structure must have the capacity to contain a spill of at least 50,000 gallons of tailings slurry or process water.
3. The PCA Secondary Containment Structures shall be inspected after each significant rain event (0.5 inches or greater over 24 hours) when the pipelines are in operation. Inspections shall occur when one or more of the pipelines containing tailing, concentrate or process water is in service, or as required by NMED. The PCA Secondary Containment Structures are not required to be inspected if the pipelines have been taken out of service and flushed in accordance with C102.D.
4. During the operation of the concentrate, tailings or process water pipelines, the permittee shall inspect the PCA Secondary Containment Structures every quarter for erosion or deterioration or any condition which may affect the proper functioning of the containment structures; and the permittee shall make any necessary repairs to the containment structures to ensure proper containment in accordance to the schedule set forth by Subsection I of 20.6.7.30 NMAC. Containment system inspections and repairs will be required when one or more of the pipelines are in service. Inspections of PCA Secondary Containment Structures are not required if all pipelines have been taken out of service and flushed in accordance with C102.D.
5. The permittee shall conduct duplicate roving from approximately Mile Marker 6.5 to the CTPS.

G. Tailing Pond 7 Groundwater Interceptor Well System

1. In accordance with Subsection H of 20.6.7.29 NMAC, the permittee shall take all necessary actions to ensure that the Tailing Pond 7 Groundwater Interceptor Well System is operating as efficiently as possible at all times in order to minimize impacts to groundwater. Groundwater capture is achieved at a pumping rate of up to 2200 gpm (approximately 3,160,000 gpd). The permittee shall expand or add additional interceptor wells as needed to address new areas of contamination when ongoing groundwater monitoring indicates such measures are needed. Any recommendations for improvement to the Tailing Pond 7 Groundwater Interceptor Well System shall be included in the annual evaluation report required by C106.G.

H. Hurley Septic Tank and Hurley Lift Station

1. The permittee shall inspect the Hurley Septic Tank and Hurley Lift Station semi-annually for the accumulation of scum and solids. In the event that the scum layer is within three inches or the solids level is within 12 inches of the intake to the outlet tee, the contents of the tanks shall be pumped by a licensed hauler. The tank inspection and pumping records shall be included in the semi-annual monitoring reports pursuant to C106.

C103 Flow Measurement

- A. Pursuant to Paragraph (2) of 20.6.7.18.E NMAC and Subsection F of 20.6.7.29 NMAC, the permittee shall visually inspect all flow meters on a monthly basis for evidence of malfunction and repair and replace malfunctioning flow meters within 30 days of or as soon as practicable following discovery.
- B. Pursuant to Paragraph (5) of 20.6.7.17.C NMAC, the permittee shall submit a flow metering plan for any new flow meters proposed to be installed for this Discharge Permit.

C104 Truck and Equipment Washing Unit

- A. The permittee shall operate the existing Small Truck Wash Rack in accordance with the applicable requirements of Subsection C of 20.6.7.26 NMAC.
- B. The permittee shall submit information to NMED within 180 days of the date of this Discharge Permit (by DATE), that documents the Small Truck Wash Rack meets the requirements of Paragraph (2) of 20.6.7.26.B NMAC.

C105 Stormwater Management

- A. Stormwater shall be managed in accordance with the applicable requirements of Paragraph (4) of 20.6.7.17.C NMAC and the of the Chino SMA Water Management Plan (June 2021 or most current version) required by this Discharge Permit.
- B. The permittee shall inspect monthly or after rain events exceeding one inch - as determined by the nearest appropriate rain gauge(s) - all stormwater impoundments, conveyance channels, and collection ponds for evidence of stormwater accumulations that exceed designed capacities or containing excessive sediment buildup. Inspections after one-inch rain events shall occur as soon as practicable. If any inspection reveals a condition that may compromise the ability of a stormwater management structure to function properly, it shall be reported in accordance with Subsection I of 20.6.7.30 (see C107.C).

C106 Monitoring and Reporting

- A. Pursuant to applicable requirements of Sections 20.6.7.28 and 20.6.7.29 NMAC, the permittee shall collect, preserve, transport, and analyze all groundwater, process water, tailings slurry, impacted stormwater, seep, spring, and surface water samples from the facility in accordance with Table 1 of this Discharge Permit, and any additional requirements listed in this Discharge Permit. Table 1 provides a summary of monitoring and reporting requirements. Figure 4 of this Discharge Permit displays sampling locations.
- B. Samples of stormwater, PLS, and process water, including seeps, shall be analyzed for total and dissolved concentrations in accordance with Table 1. Samples of groundwater and springs shall be analyzed for dissolved concentrations in accordance with Table 1.
- C. The permittee shall submit monitoring reports to NMED in both electronic and hard copy format on a semi-annual schedule that contain all quarterly monitoring data and information collected pursuant to the requirements of this Discharge Permit, and the applicable requirements of Section 20.6.7.29 NMAC. Semi-annual reports are due by February 28 and August 31 of each year. Data or reports required to be submitted annually shall be submitted in the monitoring report due by February 28 of each year.
- D. Requests to change monitoring and reporting requirements may require modification or amendment of this Discharge Permit as required by the NMED Secretary. [20.6.2.7 NMAC]
- E. Groundwater
 - 1. Pursuant to Subsection B of 20.6.7.28 NMAC, "the permittee shall monitor groundwater quality as close as practicable around the perimeter and downgradient of each open pit, leach stockpile, waste rock stockpile, tailings impoundment, process water impoundment, and impacted stormwater impoundment."
 - 2. Pursuant to Paragraph (1) of 20.6.7.28.B NMAC, the existing monitoring wells listed in Table 1 have been deemed appropriate by NMED for continued use as groundwater monitoring wells under this Discharge Permit. These groundwater monitoring wells, installed prior to the effective date of the Copper Mine Rule, have been identified to be constructed in accordance with the Copper Mine Rule.
 - 3. Pursuant to Subsection G of 20.6.7.28 NMAC, the permittee shall sample and analyze groundwater quarterly from the monitoring wells in accordance with Table 1, and the applicable requirements of Subsection F of 20.6.7.28 NMAC. Analytical results shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 NMAC.

4. Installation of Additional Monitoring Wells

- a. The permittee shall install two monitoring wells to evaluate current and future groundwater conditions and to better define the Tailing Pond 7 groundwater capture zone. One monitoring well shall be installed within 180 days of the effective date of this Discharge Permit (by DATE) and be located south of Monitoring Well 484-2008-01 and outside the zone of groundwater capture. The location and schedule for installation of the second monitoring well shall be determined in consultation with NMED.
- a. Pursuant to Subsection A of 20.6.7.28 NMAC, the permittee shall submit a monitoring well location proposal for NMED approval a minimum of 30 days prior to installation of the monitoring wells.
- b. Installation of the monitoring wells shall be in accordance with Subsections B, C, D, and E of 20.6.7.28 NMAC.
- c. The permittee shall notify NMED in writing a minimum of one week prior to the start of drilling for the monitoring wells. Upon completion of the installation of the monitoring wells, the permittee shall submit to NMED a monitoring well completion report for the newly installed monitoring wells in accordance with the applicable requirements of Subsection K of 20.6.7.28 NMAC.
- d. Upon installation of the new monitoring wells, the permittee shall sample and analyze groundwater quarterly from the monitoring wells in accordance with Table 1, and applicable requirements of Subsection F of 20.6.7.28 NMAC. Initial and future analytical results shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 NMAC.

5. Authorization to Plug and Abandon Selected Monitoring Wells

- a. Pursuant to Subsection H of 20.6.7.28 NMAC, the permittee is authorized to plug and abandon Monitoring Wells 7E(s), 7G(s), NW-1, NW-2, B-1, B-2, and 484-96-4.
- b. Monitoring wells shall be plugged and abandoned in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.1, March 2011, and all applicable local, state, and federal regulations, including 19.27.4 NMAC.
- c. The permittee shall submit documentation describing the well abandonment procedures. The well abandonment documentation shall be submitted to NMED with the next semi-annual monitoring report for DP-484 upon completion of abandonment procedures.
- d. Pursuant to Subsection B of 20.6.7.30 NMAC, NMED may require replacement monitoring wells.

6. Temporary Cessation of Monitoring and Reporting of Selected Monitoring Wells:

- a. Pursuant to Subsection H of 20.6.7.28 NMAC, the permittee is authorized to

temporarily cease monitoring and reporting of Monitoring Wells 7D(s), 7H(s), 484-97-1, 484-97-2, 484-97-3(s), and 484-97-4.

- b. The permittee is not authorized to plug and abandon these monitoring wells at this time in order that they remain in the monitoring program if future use is deemed necessary by NMED.

F. Mineral Processing and Tailing impoundment Units

1. Pursuant to Subparagraph (j) of 20.6.7.22.C(1) NMAC, the permittee shall submit on an annual basis an operating plan that describes the sequencing of tailings deposition on Tailing Pond 7, and describes the operation of any applicable systems utilized to contain or transport process water and measures taken to manage the surface impoundment area to maintain adequate freeboard.

G. Pipelines, Tank, Sumps, and Other Containment Systems

1. The permittee shall tabulate quarterly a brief written summary of all alarms related to the pipeline leak detection system, including time, date, location and results of the visual inspections. The summary and copies of all pipeline leak detection log sheets and pipeline inspection log sheets shall be submitted in the semi-annual monitoring reports pursuant to Subsection A of 20.6.7.29 NMAC.
2. Pursuant to Subparagraph (5) of 20.6.7.23.C NMAC, "any evidence of leaks or spills of fluids, process water or tailings from a pipeline or tank system inside of permitted secondary containment systems or inside an area permitted for discharge shall be recorded and reported to the department in the semi-annual reports submitted pursuant to Subsection A of 20.6.7.29 NMAC".
3. Tailing Pond 7 Groundwater Interceptor Well System Annual Report
 - a. In accordance with Subparagraph (k) of 20.6.7.22.C NMAC, the permittee shall submit an annual monitoring and evaluation report for the Tailing Pond 7 Groundwater Interceptor Well System authorized by this Discharge Permit that contains the information required by Subsection H of 20.6.7.29 NMAC. The report shall be submitted with the monitoring report due by February 28 of each year.

H. SMA Water Management Plan

1. The permittee shall submit to NMED, in both electronic and hard copy format, an updated SMA Water Management Plan annually that, at a minimum, meets the requirements of Paragraph (4) of 20.6.7.17.C NMAC and Paragraph (3) of 20.6.7.11.N NMAC (Stormwater Management Plan), and Subsection K of 20.6.7.30 NMAC (Interim Emergency Water

Management Plan). The update shall be submitted as part of the annual monitoring report. A statement indicating that no update is necessary may be provided in the event there are no changes to the SMA Sitewide Water Management Plan.

- a. The next update to the SMA Water Management Plan shall include a revision to the Ivanhoe Concentrator Process Flow Diagram (Appendix D, Figure 1). The revision shall account for any additions, subtractions, or changes to process flow diagram and include new or missing components (e.g., Termination Tank, Ivanhoe Concentrator mine units, etc.).

I. SMA Master Document

1. The permittee shall, within one year of the effective date of this Discharge Permit (by DATE), submit to NMED, in both electronic and hard copy format, an updated SMA Master Document that accounts for additions, subtractions, and other changes to the document. The update shall be submitted as part of the annual monitoring report. Thereafter, subsequent updates shall be submitted with the renewal application to DP-484, or as required by NMED.

J. Discharge Volumes

1. The permittee shall measure and report average daily discharge volumes (unless otherwise noted) for process water, interceptor collection systems, tailings and impacted stormwater discharges in accordance with Subsection C of 20.6.7.22 NMAC, and Subsections B, E, and F of 20.6.7.29 NMAC using flow meters listed in Table 1 of this Discharge Permit. Flow meter locations used for monitoring and reporting are schematically displayed on Figure 2-3 of this Discharge Permit and Figures 3-A, 3-F, and 3-G of the SMA Master Document. Discharge volume reporting shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 NMAC. In addition to applicable discharge volume reporting required by the Copper Mine Rule, discharge volume reporting for the following shall be measured and reported:
 - a. Total daily discharge volume (gpd) of copper concentrate slurry discharged to the Filter Plant from the Ivanhoe Concentrator;
 - b. Total daily discharge volume (gpd) from MRU No.2 Thickener discharged to the Upper Lined/Lower Lined Pond System;
 - c. Total daily discharge volume (gpd) from the Upper Lined/Lower Lined Pond System and Elmo's Pond discharged to the ELMS Tank;
 - d. Total daily discharge volume (gpd) discharged to Tailing Pond 7;
 - e. Total daily discharge volume (gpd) of Tailing Slurry discharged to Tailing Pond 7;
 - f. Total monthly tailing slurry discharged to Tailing Pond 7 (tons);

- g. Total monthly tailing solid discharged to Tailing Pond 7 (tons);
 - h. Total daily discharge volume (gpd) of decant process water from Tailing Pond 7 discharged to the 750K Tank;
 - i. Total daily discharge volume (gpd) of seepage and impacted groundwater (gpd) pumped from the Tailing Pond 7 Interceptor Well Field discharged to Tailing Pond 7;
 - j. Total daily discharge volume (gpd) pumped from Bolton Well Fields to Tailing Pond 7;
 - k. Total monthly discharge volume (gallons) of tailing slurry discharged to Axiflo Lake;
 - l. Total daily discharge volume (gpd) from the CTPS discharged to Tailing Pond 7;
 - m. Total daily discharge volume (gpd) from the Termination Tank discharged to Tailing Pond 7;
 - n. Total daily discharge volume (gpd) of effluent from the Bayard WWTF discharged to the ELMS Tank;
 - o. Total daily discharge volume (gpd) of domestic wastewater and process water pumped from the Hurley Lift Station discharged to the ELMS Tank; and
 - p. Total monthly discharge volume (gallons) of septage from mine facility septic tanks or holding tanks discharged to Tailing Pond 7.
2. In accordance with Subsection E of 20.6.7.29 NMAC, meter readings shall be recorded at intervals no less than once per week. The average daily discharge volume for each recording interval shall be calculated by dividing the difference between the meter readings by the number of days between meter readings. The permittee shall provide the meter readings including the date, time and units of each measurement, meter identification number from Table 1, and calculations for the average daily volumes discharged and collected in gallons per day, in the semi-annual reports submitted pursuant to Subsection A of 20.6.7.29 NMAC.

K. Flow Measurement

1. Pursuant to Subparagraph (a) of 20.6.7.18.E.2 NMAC, the permittee shall submit a report of repaired or replaced flow meters in the semi-annual monitoring reports that include a description of any flow meter malfunctions with a statement verifying the repair and description of calibration of the flow meter pursuant to Paragraph (3) of 20.6.7.18.E NMAC.

L. Meteorological Data

1. Meteorological data shall be measured as stipulated in the SMA Master Document. The data shall be submitted to NMED in the monitoring report due on February 28 of each year as required in C106.C.

C107 Contingency Plan

- A. The permittee shall comply with all applicable contingency requirements and submit to NMED all applicable information or documentation specified in Subsections A through J of 20.6.7.30 NMAC.
- B. Pursuant to Subsection G of 20.6.7.30 NMAC, discharges of process water or seepage that exceed the standards of Section 20.6.2.3103 NMAC to unauthorized areas must be reported under Section 20.6.2.1203 NMAC and as required by D106.
- C. Pursuant to Subsection I of 20.6.7.30 NMAC, the permittee shall notify NMED of any significant erosion or condition that may compromise conveyance structures utilized in DP-484.
- D. Pipelines – For any pipeline spill meeting the definition of Subparagraph (3) of 20.6.7.29.B NMAC, as determined by NMED, the permittee shall take immediate corrective actions pursuant to Section 20.6.2.1203 NMAC and as required by D106 to minimize impacts to water quality by removing any visible traces of solid tailing material, entrained fluids and contaminated soils. All removed material shall be placed in a location specifically authorized in the discharge permit, an alternate location subject to NMED approval, or otherwise properly contained, transferred, or disposed of in a manner that does not result in discharge to non-authorized areas. The extent and cleanup of spilled materials shall be thoroughly documented through photographs, truck haulage records and field notes. This documentation shall be submitted to NMED pursuant to Section 20.6.2.1203 NMAC.
- E. For any tailing spill meeting the definition of Subparagraph (3) of 20.6.7.29.B NMAC, as determined by NMED, the permittee shall analyze the spilled tailing solids and associated tailing slurry water for the parameters listed in Suites A and B of Table 1 of this Discharge Permit. The tailing solids shall be analyzed for aluminum, arsenic, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel and zinc. Spills of other substances may require sampling for additional parameters as determined by NMED. Analytical results shall be included in a Corrective Action Report to be submitted as required in 20.6.2.1203 NMAC.
- F. If a spill of 20,000-gallons or greater enters Whitewater Creek, the permittee shall utilize monitoring wells located along Whitewater Creek for monitoring potential impacts to groundwater. The permittee shall sample the nearest upgradient and downgradient monitoring wells immediately after the spill, or as NMED determines, in response to the Corrective Action Report required pursuant to 20.6.2.1203. Analytical results shall be included in a Corrective Action Report to be submitted as required in 20.6.2.1203 NMAC.
- G. The permittee has been required to submit to NMED for approval a proposed abatement plan for the Chino Mine pursuant to Section C114 of DP-1340. All abatement plans and activities

shall be performed in accordance with Sections 20.6.2.4000 through 4115 NMAC and Paragraphs (3) and (4) of 20.6.7.30.A NMAC.

- H. If NMED or the permittee identifies any other failures of the discharge plan or system not specifically noted in this permit that may have the potential to impact water quality, NMED may require the permittee to develop and submit contingency plans and schedules for NMED approval to address such failures. [20.6.2.3107.A.10 NMAC]

C108 Closure Plan

- A. Closure of all mine units associated with this Discharge Permit shall be performed in accordance with the requirements of Section 20.6.7.33 NMAC and Section 20.6.7.34 NMAC, and in accordance with DP-1340, as applicable.
- B. Pursuant to Paragraph (4) of 20.6.7.33.F NMAC and Subsection F of 20.6.7.34 NMAC, the permittee shall submit for NMED approval 60 days prior to construction, a Construction Quality Assurance/Construction Quality Control (CQA/CQC) plan for any mine units regulated pursuant to DP-484 where cover is applied under an approved closure plan.
- C. For each mine unit closed, the closure period shall cease, and the post-closure period shall commence following NMED approval of a final CQA/CQC report that is in accordance with Subsection G of 20.6.7.34 NMAC.
- D. Post-Closure Requirements
1. The permittee shall perform post-closure monitoring until NMED determines that post-closure monitoring is no longer required. The financial assurance described in C109 shall provide for a minimum of 100-years of post-closure monitoring.
 2. Post-closure requirements shall be performed in accordance with the applicable requirements of Section 20.6.7.35 NMAC, and in accordance with the Closure/Closeout Plan and associated materials submitted as part of this Discharge Permit. Pursuant to Subsection D of 20.6.7.35 NMAC, the permittee shall submit to NMED semi-annual reports pursuant to the schedule in Subsection A of 20.6.7.29 NMAC that include, but are not limited to, a description and the results of post-closure monitoring, any work completed during the preceding semi-annual period, any maintenance and repair work conducted for any closure unit, status of post-closure activities, and semi-annual potentiometric maps.
 3. Pursuant to Subsection E of 20.6.7.35 NMAC, the contingency requirements of Section 20.6.7.30 NMAC apply to any deficiencies discovered during post-closure monitoring and inspections, including, but not limited to, the requirements for possible corrective action

plans, abatement plans, monitoring well replacement, reporting and correction of unauthorized discharges, and significant erosion of, or ponding of water on, a cover system.

C109 Financial Assurance

- A. The permittee shall maintain the existing and any revised joint financial assurance with NMED and the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department to cover costs associated with closure and post-closure activities approved under this Discharge Permit and DP-1340. [20.6.2.3107 NMAC]

Part D GENERAL CONDITIONS

General conditions issued by the Ground Water Quality Bureau pursuant to 20.6.2 NMAC and 20.6.7 NMAC are listed below.

D100 Enforcement

- A. Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the permittee to a civil enforcement action pursuant to the WQA, NMSA 1978, Section 74-6-10(A) and (B). Such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the discharge permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the WQA, NMSA 1978, Section 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA, NMSA 1978, Section 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. The permittee does not waive any argument as to the weight such evidence should be given. [NMSA 1978 Section 74-6-10, Section 74-6-10.1]
- B. Pursuant to the NMSA 1978, Section 74-6-10.2(A-F), criminal penalties may be assessed for any person who knowingly violates or knowingly causes or allows another person to:
 - 1. Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA;

2. Falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or
3. Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation.

D101 General Inspection and Entry Requirements

- A. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC, NMSA 1978, Section 74-6-9(B) & (E)]
- B. The permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to [20.6.2.3107.D NMAC, NMSA 1978, 74-6-9(B) & (E)]:
 1. Enter at regular business hours or at other reasonable times upon the permittee's premises or other location where records must be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
 2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
 3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment or treatment works), practices or operations regulated or required under this Discharge Permit, or under any federal or WQCC regulation.
 4. Sample or monitor, at reasonable times for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the WQA, any effluent, water contaminant, or receiving water at any location before or after discharge.

D102 General Operational Requirements

- A. Mine units shall be designed in accordance with the applicable requirements of Section 20.6.7.17 NMAC.
- B. Mine units shall be operated in accordance with the applicable requirements of Section 20.6.7.18 NMAC.
 1. Pursuant to Subsection A of 20.6.7.18 NMAC, to the extent practicable, mine units shall be designed and operated in a manner that contemplates the closure plan, including identifying and segregating suitable material to construct covers and consideration of closure grading and drainage plans in the design and construction of operational mine

units.

- C. The permittee shall meet all applicable setback requirements pursuant to Section 20.6.7.19 NMAC.
- D. The permittee shall provide written notice to NMED of the commencement, or recommencement of operations in accordance with Subsection C of 20.6.7.18 NMAC.

D103 General Record Keeping and Reporting Requirements

- A. The permittee shall retain written records at the copper mine facility as required pursuant to Section 20.6.7.37 NMAC.
- B. The permittee shall furnish to NMED, within a reasonable time, any documents or other information that NMED requests to determine whether cause exists for modifying, terminating and/or renewing this Discharge Permit or to determine compliance with this Discharge Permit. The permittee shall also furnish to NMED, upon request, copies of documents required to be kept by this Discharge Permit. [20.6.2.3107.D NMAC, NMSA 1978, 74-6-9 (B) & (E)]

D104 General Sampling and Analytical Methods

- A. Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following documents [Subsection B of 20.6.2.3107 NMAC]:
 - 1. American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th, or current)
 - 2. U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste, and other publications of the analytical quality laboratory, EPA.
 - 3. U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey
 - 4. American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water
 - 5. U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition
 - 6. Federal Register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations
 - 7. Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods; Part 2.

Microbiological and Biochemical Properties; Part 3. Chemical Methods, American Society of Agronomy

D105 Monitoring Well Abandonment

- A. The permittee shall submit a written request for NMED approval to amend or modify this Discharge Permit at least 30 days prior to the anticipated destruction or removal of any monitoring wells required by this Discharge Permit. After the permittee receives NMED approval, monitoring well plugging and abandonment shall be completed in accordance with the *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.1, March 2011, or according to regulations issued by the Office of the State Engineer in 19.27.7 NMAC, unless an alternate method is approved by NMED. [20.6.2.3107 NMAC]
- B. The request required in D105.A shall include the following information:
1. A scaled map showing the location of the monitoring well(s) and the mine units it is intended to monitor;
 2. The purpose for plugging and abandoning the monitoring well(s);
 3. Details, if available, on the monitoring well(s), including depth-to-water elevation, top-of-casing elevation, construction and lithologic logs;
 4. Groundwater analytical results from a minimum of the most recent eight sampling events from the monitoring well(s);
 5. Proposed replacement well(s), if applicable;
 6. For any proposed replacement monitoring well(s), the same details of the proposed replacement monitoring well(s) as provided in D105.B.1, D105.B.3, and D105.B.4; and
 7. New replacement wells require monitoring well completion reports pursuant to Subsection K of 20.6.7.28 NMAC.

D106 Reporting Requirements for Unauthorized Discharges

- A. In the event of a spill or release that is not authorized under this Discharge Permit, the permittee shall initiate the notifications and corrective actions as required in 20.6.2.1203 NMAC. The permittee shall take immediate corrective action to contain and remove or mitigate any damage caused by the discharge. Within 24 hours after discovery of the discharge, the permittee shall verbally notify NMED and provide the information required by Paragraph (1) of 20.6.2.1203.A NMAC, and to determine applicable monitoring and reporting requirements pursuant to Paragraphs (2) and (3) of 20.6.7.29.B NMAC. Within 7 days of discovery of a discharge reportable under 20.6.2.1203 NMAC, the permittee shall submit a

written report to NMED verifying the oral notification and providing any additional information or changes. The permittee shall submit a corrective action report within 15 days after discovery of the discharge. [20.6.2.1203 NMAC]

- B. As part of the 24-hour spill notification requirements, the permittee shall submit a figure to NMED by the end of the next business day that clearly displays the location (or locations) of the spill and identifies nearby mine units and/or location information in latitude/longitude coordinates in decimal degrees (XX.XXXXXX and -XXX.XXXXXX, respectively), using a specified datum of WGS 84. Submittal of location information in Universal Transverse Mercator (UTM) format is also acceptable.

D107 Modifications and Amendments

- A. The permittee shall notify and obtain approval from NMED of a proposed change to the facility or the facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the facility, prior to implementing such changes. Such changes may require modification or amendment to this Discharge Permit, including payment of applicable fees as specified in Section 20.6.7.9 NMAC. [20.6.2.3107.C NMAC, 20.6.2.3109.E NMAC, 20.6.7.7.B(19) NMAC, 20.6.7.14 NMAC]
- B. As determined by NMED, for any proposed change that would meet the definition of a discharge permit modification as specified in Paragraph P of 20.6.2.7 NMAC, the permittee shall submit for NMED approval an application for modification of this Discharge Permit pursuant to Sections 20.6.7.10 NMAC and 20.6.7.11 NMAC. Plans and specifications shall be included in the requests as applicable, pursuant to Section 20.6.7.17 NMAC.
- C. As determined by NMED, for any proposed change that meets the definition of a discharge permit amendment as specified in Paragraph 19 of 20.6.7.7.B NMAC, the permittee shall submit a request to NMED for amendment of this Discharge Permit pursuant to Section 20.6.7.14 NMAC. Plans and specifications shall be included in the requests as applicable, pursuant to Section 20.6.7.17 NMAC.
- D. Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a discharge permit modification or amendment in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated, or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of groundwater quality, and that more stringent requirements are needed to protect groundwater quality.

D108 Compliance with Other Laws

- A. Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders. [20.6.2 NMAC, 20.6.7.8(D) NMAC]

draft

Table 1 - DP-484 Monitoring and Reporting Summary

Monitoring Report Schedule of Submittal (Subsection A of 20.6.7.29 NMAC)							
1	January 1 - June 30 (Q1 and Q2 sampling quarters) – Semi-annual report due by August 31 of each year						
2	July 1 - December 31 (Q3 and Q4 sampling quarters) – Semi-annual report due by February 28 of each year						
3	Annual reports due by February 28 of each year						
Reporting Summary							
Annual Reporting Frequency	Description						
2	Monitoring reports – All applicable requirements of Subsections A through H of 20.6.7.29 NMAC, and C106.						
2	Additional discharge volume reporting required by C106.J						
Monitoring Schedule							
Area	Identification Number	Sampling					Notes
		type	Monthly	Quarterly	Semi-Annually	Annually	
Zone 1	PW-1	ipw		BW	ABW	ABCW	
	PW-4	ipw		BW	AW	ABCW	
	PW-5	ipw		BW	ABW	ABCW	
	PW-8	ipw		BW			
	PW-20	ipw		BW			
	7LS	mw		BW			
	7MS	mw		BW			
	NW-6	mw		BW			
	NW-13	mw		BW			
	484-96-3	mw		BW			
	484-96-5	mw		BW			
	214-2019-06	mw		BW			
Zone 2	PW-3	ipw		BW	-	ABCW	
	PW-6	ipw		BW	AW	AW	
	PW-9	ipw		BW	AW	AW	
	PW-10	ipw		BW	AW	AW	
	PW-19	ipw		BW	AW	AW	
	7ED	mw		BW			
	7FS	mw		BW	AW	AW	
	NW-5	mw		BW			
	484-96-1	mw		BW			
	484-96-2	mw		BW			
Zone 3	PW-2R	ipw		BW	-	ABCW	
	PW-7R	ipw		BW	-	ABCW	
	PW-11	ipw		BW	AW	AW	
	PW-12	ipw		BW			
	7KS	mw		BW			
	NW-3	mw		BW			
	NW-4	mw		BW			
	NW-11	mw		BW			
	484-97-3D	mw		BW			
	484-2008-01	mw		BW			
	484-2008-02	mw		BW			

Zone 4	PW-15	ipw		BW	AW	ABCW	
	PW-16	ipw		BW	AW	AW	
	PW-17	ipw		BW			
	PW-18	ipw		BW			
	7AS	mw		BW			
	7BS	mw		BW			
	7BD	mw		BW			
	7CS	mw		BW			
	484-97-5	mw		BW			
	484-97-6	mw		BW			
	484-99-1	mw		BW			
Other	7J(S)	mw		BW		B	
Sampling	BLTCMP	mw		BW			
Locations	484-2019-E	mw		BW			
	484-2019-F	mw		BW			
	214-03-03	mw		BW			Also in DP-1340
	214-98-03	mw		BW			Also in DP-1340
	DM-1D			BW			Also in DP-1340
	DM-2S			BW			Also in DP-1340
	DM-2D			BW			Also in DP-1340
	214-94-1			BW			Also in DP-1340
	214-94-2			BW			Also in DP-1340
	Tailing Pond 7	pw	A		BC		Totals and dissolved
	Axiflo Lake	pw	A		BC		Totals and dissolved
	Tailing Slurry Water	pw			C		Totals and dissolved
	Tailing Slurry Solids	pw			C		
	Lower Lined Pond	pw		B		C	Totals and dissolved
	Elmo's Pond	pw		B		C	Totals and dissolved
	James Canyon Reservoir	sw		B		C	Totals and dissolved
New MWs	TBD			BW			See C106.E(4)
Flow Meters (Table 10, Ivanhoe Master Document)	1	West Tailing Pipeline north end					
	2	West Tailing Pipeline south end					
	3	East Tailing Pipeline north end					
	4	East Tailing Pipeline south end					
	5	Middle (Spare) Tailing Pipeline north end					
	6	Middle (Spare) Tailing Pipeline south end					
	7	Process Water from 750K Tank to Concentrator north end					
	8	Process Water from 750K Tank to Concentrator south end					
	9	Concentrate pipeline from Concentrator to Hurley north end					
	10	Concentrate pipeline from Concentrator to Hurley south end					
	11	From Hurley Lift Station to ELMS Tank					
	11a	From Bayard WWTF to ELMS Tank					
	12	From Lower Lined Pond and Elmo's Pond to ELMS Tank					
	13	Tailing Pond 7 to 750K Tank north end					
	14	Tailing Pond 7 to 750K Tank south end					
	15	From MRU 2 Thickener					
	16	From Bolton Wells to Tailings Pond 7 #15					
	17	From Bolton Wells to Tailings Pond 7 #16					

18	PW-1 (Pumpback Well 1)
19	PW-2R
20	PW-3
21	PW-4
22	PW-5
23	PW-6
24	PW-7R
25	PW-8
26	PW-9
27	PW-10
28	PW-11
29	PW-12
30	PW-15
31	PW-16
32	PW-17
33	PW-18
34	PW-19
35	PW-20

Sampling Analytical Suites:

A = Field parameters: Temperature (°C), pH, specific conductance (µS/cm)

B = Field parameters and Indicator Parameters: Temperature (°C), pH, specific conductance (µS/cm), sulfate, total dissolved solids (TDS)

C = Metal and Inorganic parameters: Al, As, Cd, Cl, Cr, Co, Cu, F, Fe, Pb, Mn, Ni, Se, U, and Zn

W = Depth-to-water measurement to the nearest 0.01 foot

Explanation to Abbreviations and Symbols

Type	Sampling Quarter	Suite C Sampling Analytes	
mw = monitoring well ipw = interceptor/pumpback well pw = process water sw = surface water PW = Pumpback Well (i.e., Tailing Pond 7 Groundwater Interceptor Wells)	Q1 = Jan-Mar Q2 = Apr-Jun Q3 = Jul-Sep Q4 = Oct-Dec	Al = Aluminum As = Arsenic Cd = Cadmium Cr = Chromium Cl = Chloride Co = Cobalt Cu = Copper	F = Fluoride Fe = Iron Pb = Lead Mn = Manganese Ni = Nickel Se = Selenium U = Uranium Zn = Zinc

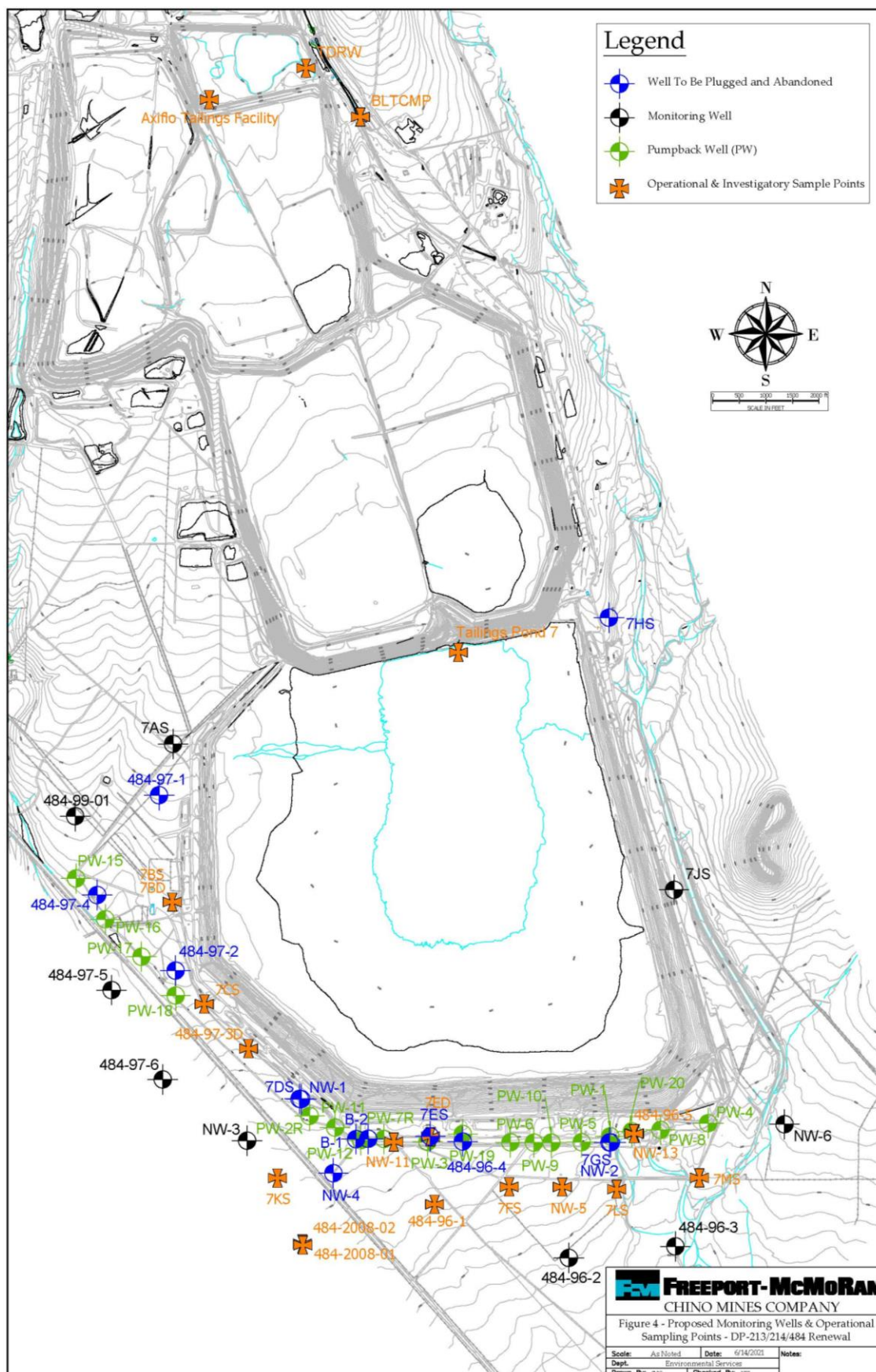


Figure 1 - DP-484 Monitoring Locations

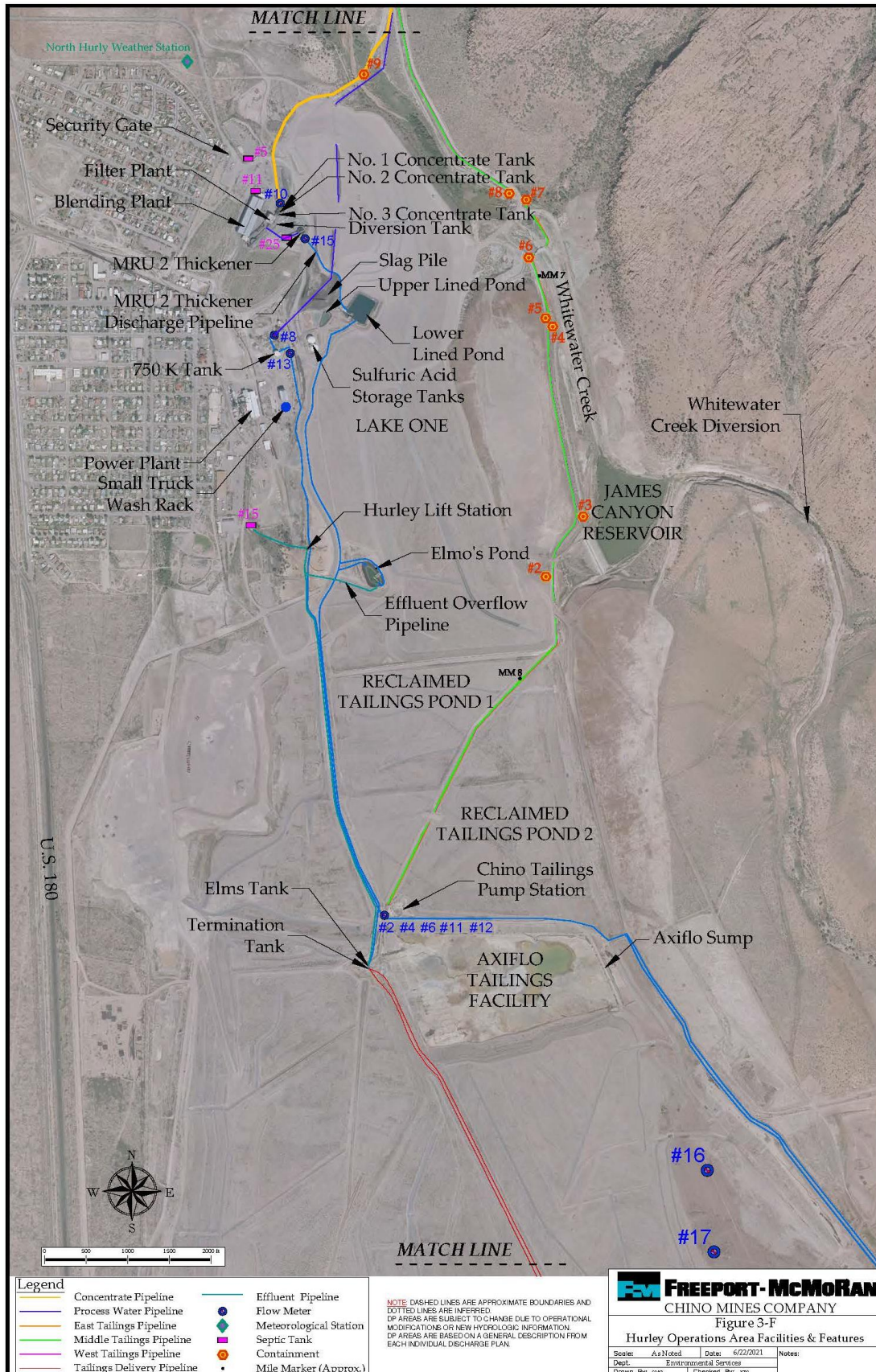


Figure 2 - DP-484 Hurley Operational Area and Axiflo Lake

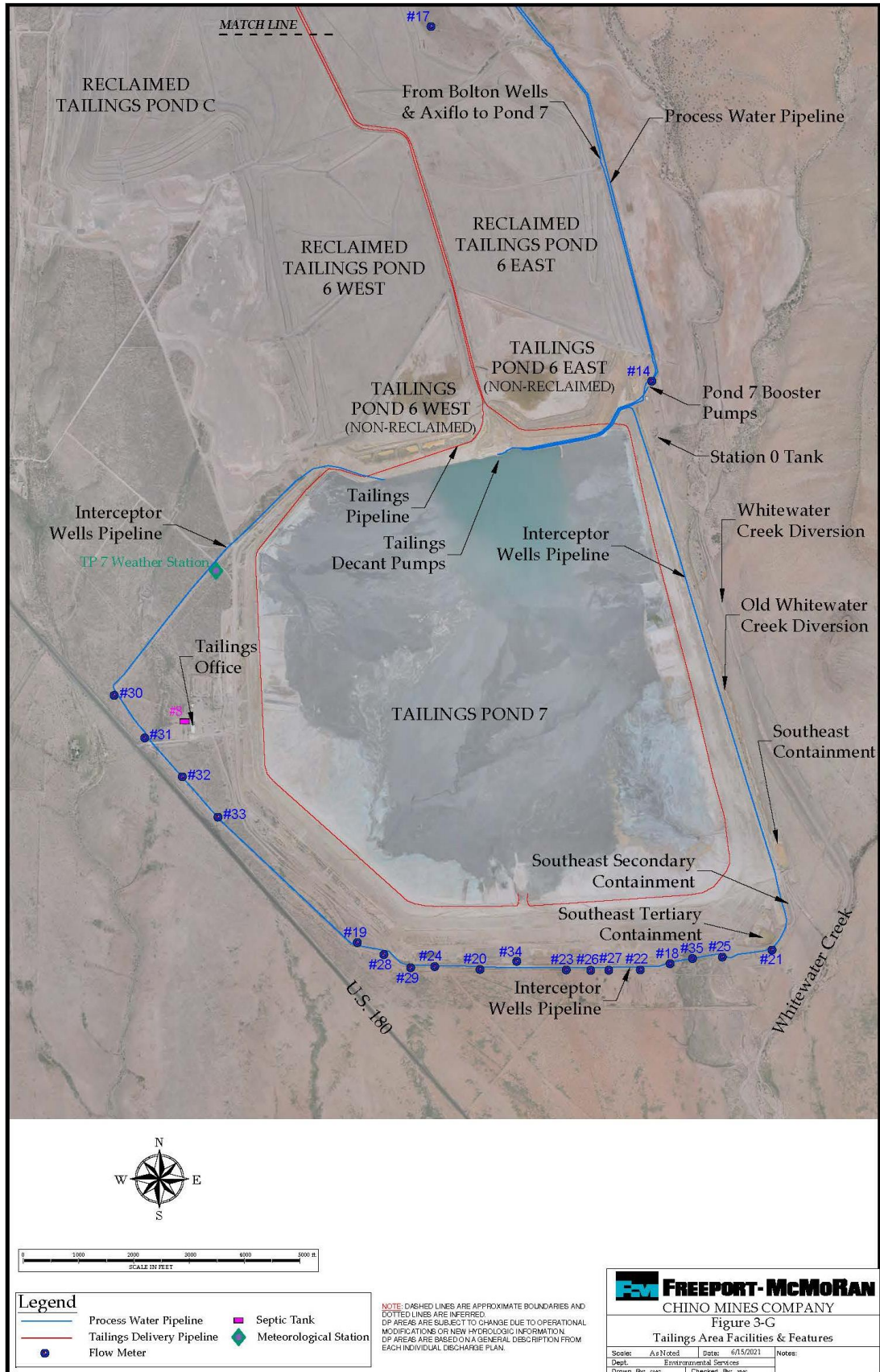


Figure 3- DP-484 Tailing Pond 7 Area

